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Prevalence of Personality Disorders Among Combat Veterans with Posttraumatic Stress Disorder

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Many combat veterans with PTSD have co-occurring symptoms of other forms of psychopathology; however, there have been limited studies examining personality disorders among this population. The few extant studies typically have assessed only two or three personality disorders or examined a small sample, resulting in an incomplete picture and scope of comorbidity. This study assessed all DSM-III-R personality disorders in 107 veterans in a specialized, inpatient unit. Using the Structured Clinical Interview for DSM-III-R Personality Disorders, 79.4% of the participants were diagnosed with at least one personality disorder: 29.9% received only one diagnosis, 21.5% had two, 15.9% had three, and 12.1% had four or more. The most frequent single diagnoses were Avoidant (47.2%), Paranoid (46.2%), Obsessive-Compulsive (28.3%), and Antisocial (15.1%) personality disorders.

KEY WORDS: trauma; PTSD; personality disorders; assessment.

Personality disorders among combat veterans with posttraumatic stress disorder (PTSD) is a topic of clinical importance on which there is virtually no research. Substantial amounts of research and theory have identified and described personality disorders and PTSD separately, but relatively little has been done to examine the comorbidity between these diagnostic categories even though there are reasons to suspect considerable overlap. Both PTSD and personality disorders involve behaviors and symptoms that are pervasive across a variety of situations and are persistent over an extended period of time. Empirical studies have shown

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each of these disorders, when they occur individually, to be particularly intractable (Green, Lindy, Grace, & Leonard, 1992; Herman, 1992; Long et al., 1989; Solursh, 1989). When these disorders co-occur in a single individual, as is often the case for combat veterans, associated symptoms appear to be more highly treatment-resistant (Breslau & Davis, 1992).

A modest body of research identifies the common pathogenesis of PTSD and other concurrent Axis I conditions, such as depressive, anxiolytic, and substance abuse disorders (Birkhimer, DeVane, & Muniz, 1985; Brown & Wolfe, 1994; Davidson, Swartz, Storck, Krishnan, & Hammett, 1985; Egendorf, Kadushin, Laufer, Rothbart, & Sloan, 1981; Green, Lindy, Grace, & Gleser, 1989; Keane, Caddell, Martin, Zimering, & Fairbank, 1983; Keane, Gerardi, Lyons, & Wolfe, 1988; Sierles, Chen, Messing, Besyner, & Taylor, 1986). However, virtually no research has examined the comorbidity of PTSD and the full spectrum of personality disorders. Under DSM-III-R (American Psychiatric Association, 1987), 11 personality disorders were divided among three clusters (odd, dramatic, and anxious), but only two of these disorders, antisocial and borderline personality, have been examined systematically for comorbidity with PTSD. These disorders have been examined the most frequently among PTSD combat veterans in part because they include the problems that initially brought the patients into treatment, such as difficulties with violence and anger control, substance use, and social alienation (Bailey, 1985; Behar, 1984; Helzer, Robins, & McEvoy, 1987; Sierles, Chen, McFarland, & Taylor, 1983).

Comorbidity

The extant research on combat veterans points to a high degree of comorbidity between PTSD and other Axis I and II disorders. The percentage of Vietnam veterans with PTSD as their only diagnosis tends to be very low (Roszell, McFall, & Malas, 1991). Overall, 80% (Helzer et al., 1987; Sierles et al., 1983, 1986) to 98% (Kulka et al., 1990) of Vietnam veterans with current or lifetime PTSD have at least one other psychiatric disorder at some time during their lives. Comorbidity studies typically have focused on other Axis I diagnoses, such as mood, anxiety and substance-use disorders; ranges for comorbidity rates among veterans with PTSD are 64–100%, 72–100%, and 50–80%, respectively (Birkhimer et al., 1985; Boudewyns, Albrecht, Talbert, & Hyer, 1991; Brown & Wolfe, 1994; Davidson et al., 1985; Green, Lindy, & Grace, 1985; Keane et al., 1983, 1988; Kluznik, Speed, Van Valkenburg, & Magraw, 1986; Mollica, Wyshak, & Lavelle, 1987; Sierles et al., 1986; Sutker, Uddo-Crane, & Allain, 1991; Sutker, Winstead, Galina, & Allain, 1991). Overall, male Vietnam veterans with PTSD are more likely than Vietnam veterans without PTSD to have a history of Antisocial Personality Disorder, alcohol abuse/dependence, substance abuse/dependence, Dysthymia, Generalized Anxiety

Disorder, Major Depressive Episode, Obsessive-Compulsive Disorder, and Panic Disorder (Kulka et al., 1990).

Personality Disorders and PTSD

In striking contrast to the Axis I disorders, the comorbidity of PTSD and personality disorders has remained largely unstudied. This is likely due, at least in part, to the imprecise methodology for assessing personality disorders (Roszell et al., 1991). In addition, the functional relationship that might exist between PTSD and personality disorders is uncertain. It is unclear, for example, whether trauma exposure initiates the development of character pathology (i.e., personality disorders) or whether pretrauma character pathology places an individual at greater risk for developing PTSD symptoms (Lindy, Grace, & Green, 1984). Typically, when personality disorders have been examined in samples of veterans, not all the personality disorders have been assessed, resulting in a rather biased view of comorbidity between PTSD and personality disorders. Further, the disorders usually studied, Antisocial and Borderline, have proven difficult to differentiate from PTSD (Bailey, 1985; Reich, 1990; Resnick, Foy, Donahoe, & Miller, 1989).

In one study, Resnick and colleagues (1989) examined the relationship between preadult and adult antisocial behaviors, level of combat exposure, and the development of combat-related PTSD among 118 Vietnam-era veterans seeking psychological services. The investigators found that combat exposure was related to PTSD symptomatology but preadult antisocial behaviors were not. In addition, combat exposure did not correlate with preadult behaviors. However, both PTSD and preadult antisocial behavior correlated significantly with *adult* antisocial behaviors. No interactive effects of the variables were reported. These findings are consistent with the results of previous studies, which did not identify a significant relationship between Antisocial Personality Disorder and PTSD (Carroll, Rueger, Foy, & Donahoe, 1985; Foy, Sipprelle, Rueger, & Carroll, 1984; Solkoff, Gray, & Keill, 1986). However, Helzer et al. (1987) found that preadult antisocial behaviors in a community sample correlated significantly with both PTSD symptoms and combat exposure. In this nationwide general-population survey of psychiatric disorders, there were 2,493 participants overall, but only 64 men in the sample had served in Vietnam; 43 of these veterans had served in combat. The contradiction between these studies' findings likely result from differences in methodology and sample selection. Resnick et al. (1989) defined preadult antisocial behaviors, combat exposure, and PTSD symptoms as continuous variables, whereas Helzer et al. (1987) defined them dichotomously. Additionally, Resnick et al. (1989) studied a clinical sample, whereas Helzer et al. (1987) studied a community sample.

In other studies of PTSD, individual personality disorders, such as Antisocial, have been the secondary or tertiary focus after the examination of the authors'

primary interests. By contrast, Sierles and colleagues (1983) examined concurrent psychiatric illness among 25 combat veterans in an inpatient facility. Nearly half of these veterans (48%) met criteria for Antisocial Personality Disorder. A similar study of 25 consecutive admissions to an outpatient setting for combat veterans (Sierles et al., 1986) revealed that 64% of this sample met criteria for Antisocial Personality Disorder. The small sample sizes ($n = 25$) and the use of the Feighner criteria (Feighner et al., 1972), rather than the DSM-III-R criteria for Antisocial Personality Disorder, limit the utility of these findings.

Faustman and White (1989) reviewed 8,000 medical charts over a 4-year period from 14 psychiatric wards and a stress-disorder program. They investigators identified 536 male patients who had received a chart diagnosis for either a current or a provisional diagnosis of PTSD. Approximately one third (31%) of these patients also had received a personality-disorder diagnosis; the most common diagnoses given were mixed personality (11.8%) and Borderline (5.8%). Although the presentation of descriptive data is important, this study has several limitations. This retrospective analysis examined 8,000 diagnoses that came from an unspecified number of attending physicians over a 4-year period who, in all likelihood, received no standard or uniform diagnostic training and had varying degrees of diagnostic experience and familiarity with the *DSM*. Because no standardized protocol or structured interview was used, some patients may have been misdiagnosed in a nonrandom fashion that would have been reflected in the patients' discharge summaries.

To date, the most comprehensive and only clinician-rated assessment of personality disorders in treatment-seeking combat veterans with PTSD was conducted by Southwick, Yehuda, and Giller (1993). These investigators used the Personality Disorder Examination (PDE; Loranger, Susman, Oldham, & Russakoff, 1987) to assess 18 inpatients and 16 outpatients. Overall, they found more than one third of all patients met criteria for at least two personality disorders. The most frequently diagnosed personality disorders were Borderline (76%), Obsessive-Compulsive (44%), Avoidant (41%), and Paranoid (38%). The inpatients had significantly more personality-disorder diagnoses than outpatients. Despite many strengths, this study is limited by its small sample size and the use of the PDE which tends to rely heavily on the patient's subjective report rather than objective indicators of symptoms.

In summary, systematic and thorough studies using reliable and valid instruments to measure personality disorders among combat veterans with chronic PTSD have not been conducted. Although a few studies indicate a substantial comorbidity between PTSD and personality disorders, differences in methodologies, diagnostic criteria, sample selection, clinical settings, and research foci make it difficult to accurately estimate the level of comorbidity (Roszell et al., 1991). Before effective patient–treatment matching protocols can be considered or employed, a better understanding of the comorbidity between PTSD and personality disorders must be established.

Method

Participants

The sample consisted of 107 male veterans admitted consecutively to a specialized inpatient PTSD unit of a Department of Veterans Affairs Medical Center. No participants with a primary diagnosis of mental retardation, organic impairment, or psychotic disorder were included in the study. Participants with a diagnosis of substance use were included because substance abuse is seen frequently as a comorbid diagnosis of PTSD and personality disorders (Alnaes & Torgersen, 1988, 1990; Birkhimer et al., 1985; Brown & Wolfe, 1994; Egendorf et al., 1981; Green et al., 1989; Keane et al., 1983, 1988; Shea, Glass, Pilkonis, Watkins, & Docherty, 1987; Sierles et al., 1983, 1986; Widiger & Rogers, 1989; Zimmerman & Coryell, 1989, 1990). The mean age of the participants was 47.2 years ($SD = 4.5$) with an average of 12.8 years ($SD = 2.2$) of education. One of the participants was a veteran of World War II (1%), three of the Korean conflict (3%), one of the 1960's conflict in Honduras (1%), and the rest of the Vietnam War (95%). Other demographic information is listed in Table 1.

Instruments

The Structured Clinical Interview for DSM-III-R Personality Disorders (SCID-II; Spitzer, Williams, Gibbon, & First, 1990) is a semistructured, clinical

Table 1. Description of Participants ($N = 107$)

Characteristic	*n*	%
Racial/ethnic origin		
Caucasian	71	66.4
Hispanic	19	17.7
African American	12	10.3
Pacific Islander	3	2.8
Asian American	1	0.9
Native American	1	0.9
Marital status (%)		
Divorced	54	50.5
Married	37	34.6
Single/never married	11	10.2
Separated	5	4.7
Branch of service		
Army	71	66.7
Marines	20	18.4
Navy	10	9.2
Air force	5	4.6
Coast guard	1	1.1

interview designed to diagnose the 11 personality disorders and the proposed category of Self-Defeating Personality Disorder. A second proposed category, Sadistic Personality Disorder, was not included in SCID-II because of "the seemingly insurmountable difficulty of making the diagnosis solely on the basis of information from a subject" (Spitzer et al., 1990, p. 2). SCID-II consists of 113 items or criteria that are organized into modules, with each module corresponding to a separate personality disorder. The individual items are scored as absent (1), subthreshold (2), or threshold (3). Within each module or disorder, a specified number of items or criteria are required by the DSM-III-R before a diagnosis can be assigned. When a disorder reaches threshold and there is general distress, the interviewer then can note the severity as either mild, moderate, or severe (Bodlund, Ekselius, & Lindstrom, 1993).

Following the SCID-II scoring convention, when a participant provided sufficient examples of symptoms/behaviors that were pathologic, persistent, and pervasive, the rater was instructed to assign a rating of "3" for that particular criterion. A behavior was considered pathologic when it was outside the range of "normal" variation and deviated markedly from the expectations of the individual's culture. A persistent behavior was identified as such when it had been present over a period of at least the past 5 years. Finally, a behavior was considered to have been pervasive when it was present in a variety of contexts and with a variety of individuals (First, Spitzer, Gibbon, & Williams, 1995; First, Spitzer, Gibbon, Williams, Davies, et al., 1995). For example, if a person displayed a limited degree of social anxiety only in certain situations, such as presentations at work, which did not lead to clinically significant distress, the diagnosis of Schizotypal Personality Disorder would not be appropriate. However, if a person manifested excessive social anxiety in a broad range of personal and social situations, which affected all or most areas of personality functioning (behavior, cognition, or affect) along with other similar disruptions, the diagnosis of Schizotypal Personality Disorder would be appropriate.

The SCID-II has good-to-excellent interrater reliability across various populations (Arntz et al., 1992). With a sample of anxious outpatients, the interrater reliability ranged from .60 to .84. The kappa coefficients for the interview were fairly robust, especially for Avoidant Personality Disorder and the Anxious cluster, with values ranging from .61 to .81 (Renneberg, Chambless, Dowdall, Fauerbach, & Gracely, 1992). In addition, SCID-II was found to have an overall diagnostic power ranging from .45 for Narcissistic to .95 for Antisocial (Skodol, Rosnick, Kellman, Oldham, & Hyler, 1988).

The Clinician-Administered PTSD Scale—Form 1 (CAPS-1) is a semistructured, clinical interview designed to assess the core and associated symptoms of PTSD (Blake et al., 1990a,b). CAPS-1 allows for the systematic examination of PTSD by assessing the intensity and frequency of each DSM symptom. The CAPS-1 is designed to be administered by clinicians or trained paraprofessionals

who have an understanding of assessment, psychopathology, the *DSM*, and diagnostic interviewing (Blake et al., 1995). The CAPS-1 provides standardized prompt questions, but encourages the interviewer to use additional questions or comparable alternatives. A symptom has met threshold or is considered to be endorsed when it has occurred at least once during an 1-month period and the symptom is at least moderately intense or distressing. Each symptom also contains separate frequency and intensity rating scales. Because the frequency and intensity ratings are made on a 5-point continuum, the CAPS-1 yields both dichotomous diagnostic information about PTSD and continuous symptom scores.

The CAPS-1 has been used to assess and monitor the progress of rape-related PTSD (Resnick, Kilpatrick, & Lipovsky, 1991) and combat-related PTSD (Keane, Weathers, & Kaloupek, 1992). The CAPS-1 has excellent reliability: The test–retest reliability coefficients for the three symptom clusters ranged from .77 to .96 and from .90 to .98 for the total severity score of all 17 PTSD criteria symptoms (Blake et al., 1995; Weathers & Litz, 1994). The internal consistency for the clusters and for all 17 symptoms were high (.86 and .94, respectively) suggesting that the instrument is measuring a singular construct. CAPS-1 total severity scores were correlated significantly with M-PTSD ($r = .91$) and PK ($r = .77$). Using the PTSD module of the SCID as a criterion measure, CAPS-1 (with a total score of 65 or more) was found to have good sensitivity (.84), excellent specificity (.95) and efficiency (.89), and a kappa coefficient of .78. In the present study, the CAPS-1 was used to diagnose current PTSD.

Procedure

Participants completed the CAPS-1 and SCID-II as part of a battery of assessment instruments within 1 week of admission to the PTSD treatment unit. All veterans were diagnosed with a primary Axis I diagnosis of PTSD according to the CAPS-1.

The SCID-II was administered by one of two different raters: a Master's-level clinician and a doctoral candidate in clinical psychology, each with two to three years of experience working with PTSD patients. The interviewers did not have access to any diagnostic data prior to the interview. Both raters received extensive training in administering the SCID through role plays, discussion of diagnostic criteria, and ratings of videotaped SCIDs, as is suggested by the instructions provided by the SCID Manual (Spitzer, Williams, & Gibbon, 1987). In addition, the raters were supervised by a clinical psychologist who had extensive training in psychological assessments and SCID interviews. If there was disagreement about the appropriate diagnoses, a consensus diagnosis was formulated and the diagnostic criteria were reviewed in consultation with the supervisor in order to minimize drift among raters. The diagnostic reliability of the structured interviews was evaluated randomly throughout the study.

Interrater reliability for the SCID-II was assessed using kappa coefficients for multiple raters (Fleiss, 1971). Kappa adjusts for chance agreement among methods and takes both the presence and the absence of the diagnosis into consideration. Among a randomly selected sample of participants ($n = 20$), kappa coefficients were computed only for those individual personality disorders with base rates greater than 10% (Growe, Andreassen, McDonald-Scott, Keller, & Shapiro, 1981; Perry, 1992; Renneberg et al., 1992) because kappa shows high variability when a disorder occurs at very low base rate (Shrout, Spitzer, & Fleiss, 1987). Because of the low prevalence rates, coefficients were not computed for Histrionic, Passive-Aggressive, Schizoid, and Schizotypal personality disorders. Percentage or proportion of agreement for the remaining disorders ranged from 82% to 95%, and the average kappa coefficients for the raters were .90 with a range of .64 to 1.00. The categories with the lowest prevalence rates yielded the poorest agreement. The overall kappa, which represents the general interrater agreement across all categories, was .93.

Results

Prevalence

Based on the SCID-II interviews, 79.4% ($n = 83$) of the participants were diagnosed with at least one personality disorder; 29.9% ($n = 32$) received only one diagnosis; with regard to diagnoses of more than one personality disorder, 21.5% ($n = 23$) of the sample had two, 15.9% ($n = 17$) had three, and 12.1% ($n = 13$) had four or more (see Table 2). The SCID-II identified at least one individual who met criteria for each of the 11 personality disorders, and the mean number of Axis II diagnoses per person was 1.7 ($SD = 1.39$; see Table 2).

When the prevalence rates were examined by personality disorder clusters, Cluster C (anxious) yielded the most personality-disorder diagnoses. The SCID-II diagnosed 92 disorders in Cluster C, 61 in Cluster A (odd), and 27 in Cluster B (dramatic). Thus, of the total 180 personality-disorder diagnoses, Cluster C received 51.1% of the diagnoses, Cluster A received 33.9%, and Cluster B received 15.0%. The total number of diagnoses within each cluster largely comprised a single disorder within that respective cluster. For example, Paranoid Personality Disorder comprised 80.3% of the Cluster A diagnoses; Antisocial Personality Disorder comprised 59.3% of the Cluster B diagnoses; and Avoidant Personality Disorder comprised 54.3% of the Cluster C diagnoses. When two or more personality disorders were present, only 2.8% ($n = 3$) occurred within the same cluster.

The most frequent single personality-disorder diagnosis among the participants was Avoidant, followed by Paranoid, Obsessive-Compulsive, and Antisocial personality disorders (see Table 2). These four personality disorders (Avoidant,

Table 2. Prevalence of Personality Disorders ($N = 107$)

Axis II Diagnoses	SCID-II	
	n	%
Cluster A		
Paranoid	49	46.2
Schizoid	9	8.5
Schizotypal	3	2.8
Cluster B		
Antisocial	16	15.1
Borderline	6	5.7
Histrionic	1	0.9
Narcissistic	4	3.8
Cluster C		
Avoidant	50	47.2
Dependent	4	3.8
Obsessive-compulsive	30	28.3
Passive-aggressive	8	7.6
Frequency of personality-disorder diagnoses		
Total number	180	
Range	0–6	
μ	1.70	
SD	1.39	

Note. Percentages add up to more than 100% because of multiple diagnoses.

Paranoid, Obsessive-Compulsive, and Antisocial) comprised 80.6% of all the personality disorders diagnosed in this sample.

In addition to examining the rates of personality disorders in this sample of PTSD veterans, we explored the relationship between personality disorders and the severity of PTSD symptoms. The number of SCID-II diagnoses was found to be positively correlated with the Mississippi Scale for Combat-Related PTSD ($r = .30$, $p < .01$) and the CAPS-1 ($r = .26$, $p < .01$). The number of Axis II disorders was not significantly correlated with the Combat Exposure Scale ($r = .17$, $p = .08$). When the CAPS-1 was separated into its three symptom clusters (reexperiencing, avoidance, and arousal), the avoidance and hyperarousal clusters were found to be significantly correlated with the number of SCID-II diagnoses ($r = .22$, $p < .05$, and $r = .23$, $p < .05$, respectively), but the correlation with the reexperiencing cluster fell just short of significance ($r = .21$, $p = .06$).

Discussion

The number of personality-disorder diagnoses for this sample is rather high, with more than 75% of the participants meeting criteria for at least one personality disorder. By comparison, personality disorders are estimated to occur in approximately 10–13% of the general population (Maier, Licktermann, Klingler, Heun, &

Hallmeyer, 1992; Merikangas & Weissman, 1986; Oldham, 1994; Reich, Yates, & Nduaguba, 1989; Weissman, 1993; Zimmerman & Coryell, 1989, 1990). Furthermore, the number of multiple diagnoses was also quite high, with slightly more than 50% of individuals studied having two or more personality disorders. The current findings are consistent with earlier research on personality disorders and PTSD; however, the results also differ in several ways.

The rates of personality disorders found here were somewhat higher than in previous studies. For example, Faustman and White (1989) found that approximately one third of their sample had a diagnosable personality disorder. Notably, three of the four most prevalent personality disorders found in the present study (Paranoid, Avoidant, and Obsessive-Compulsive) were identical to those found in a previous study (Southwick et al., 1993). The present study found relatively low rates of Schizoid, Histrionic, Narcissistic, and Antisocial personality disorders, which was also similar to rates found previously (Southwick et al., 1993).

One unexpected finding in the present study was the relatively low rate of Borderline Personality Disorder diagnosed in this sample. The extensive literature on childhood and early trauma (Bradley, 1979; Herman, Perry, & van der Kolk, 1989; Herman & van der Kolk, 1987; Ogata et al., 1990; van der Kolk, Hostetler, Herron, & Fisler, 1994) and the conceptual overlap between PTSD and Borderline Personality Disorder (Gunderson & Sabo, 1993) suggest that an individual who experiences extreme stressors will be more likely to be diagnosed with Borderline Personality Disorder as an adult. Therefore, it would be predicted that many veterans who experienced severe stressors in combat or other life-threatening situations while in the military would have received a diagnosis of Borderline Personality Disorder. In contrast to the 6% rate of Borderline Personality Disorder in the present sample, Southwick and colleagues (1993) reported a rate of 76%.

The disparity between the prevalence of Borderline Personality Disorder in these two studies may be due, in part, to differences in assessment instruments. Southwick and colleagues (1993) used the PDE to diagnose the personality disorders, whereas here, the SCID-II was used. The PDE is arranged in a format that attempts to balance a spontaneous, natural clinical interview with the requirements of standardization and objectivity (Loranger, Hirschfeld, Sartorius, & Reiger, 1991). Questions are arranged under six headings (Work, Self, Interpersonal Relationships, Affects, Reality Testing, and Impulsive Control), and subjective reports by patients are weighted heavily as indicators of symptoms. In contrast, the SCID-II is arranged in a format that systematically reviews and assesses the symptoms entailed in each personality disorder. In addition, the SCID-II places a premium on identifying objective or behavioral examples of a particular criterion before establishing a symptom as present or absent.

In the present study, the diagnosis of Antisocial Personality Disorder was made in 15% of the sample, which is considerably lower than in previous work (Sierles et al., 1983, 1986), which established concurrence rates of 48% to 64%. It is likely that the lower rate of Antisocial Personality Disorder in the present

study resulted from the more restrictive definition of the disorder. In the present study, the Antisocial diagnosis required symptoms as an adult *and* the presence of Conduct Disorder prior to the age of 15. If this diagnosis is made solely on the basis of behavior *since* 18 years of age, 50% of the subjects would have fallen in this category. Accordingly, our prevalence rate of Adult Antisocial Behavior is comparable to the rates of Antisocial Personality Disorder in other studies.

Two other results were unexpected. First, approximately one half of the subjects received a diagnosis of Paranoid Personality Disorder. The primary characteristics of this disorder are a pervasive distrust and suspiciousness of others such that motives often are construed as malevolent (American Psychiatric Association, 1994). Second, more than one quarter received a diagnosis of Obsessive-Compulsive Personality Disorder in which the essential features are a preoccupation with orderliness, perfectionism, and mental and interpersonal control (American Psychiatric Association, 1994). Upon closer examination, these characteristics of Paranoid and Obsessive-Compulsive personality disorders may correspond with PTSD symptomatology and combat behavior (Hendin, 1984; Southwick et al., 1993). During combat or other life-threatening situations, in which an individual experiences fear and vulnerability while other people try to hurt, maim, or kill him/her, it is adaptive to be distrustful and suspicious of other people and their motives. Furthermore, during a chaotic conflagration, such as combat, and during a period of political and civil uncertainty, painstaking attention to rules and details may not only serve to preserve one's life but also may impose a certain amount of structure and consistency in one's life.

Although many prior studies have demonstrated the comorbidity associated with PTSD, there were some differences in the frequency of specific disorders. This range or variability in comorbidity rates may reflect differences in methodology among the studies, the disparate treatment settings (inpatient or outpatient), types of programs (general psychiatric or specialized units), assessment instruments (questionnaires or interviews), scale/rating construction (behaviorally anchored or subjectively anchored), and use of different diagnostic criteria (Feighner, Research Diagnostic Criteria, DSM-III, DSM-III-R, DSM-IV, or ICD-9, ICD-10; Feighner et al., 1972; Roszell et al., 1991; Rundell, Ursano, Holloway, & Silberman, 1989; Spitzer, Endicott, & Robins, 1978). As a consequence, the use of standardized, structured interviews, such as CAPS-1 and SCID- II, is important for the assessment not only of PTSD, but possible concurrent disorders as well. Overall, this study is more thorough and extensive in that all 11 personality disorders were assessed and reviewed. It is the first study to thoroughly delineate personality disorders in a treatment-seeking population of veterans diagnosed with PTSD. Furthermore, this study included data from considerably more subjects than have previous studies.

When reviewing the findings and the applicability of this research, it is essential to keep several points in mind, such as the type of clinical population, the treatment setting, the method and purpose of assessment, and the generalizability

of diagnostic criteria. Our sample consisted of treatment-seeking veterans who were diagnosed subsequently with chronic PTSD and a host of other comorbid disorders. As a consequence, these veterans brought a number of presenting problems or issues with them, many of which went undiagnosed and untreated for many years. Furthermore, the fact that an inpatient sample of veterans was being studied may have influenced the frequency and types of personality disorders observed. Because all veterans in this sample carried an Axis I diagnosis as well, which is consistent with other research on personality-disorder diagnoses (Skodol et al., 1988), the range of personality disorders diagnosed may have been affected as well. In an outpatient setting or with participants diagnosed with acute PTSD or non-combat-related trauma, different personality disorders such as Histrionic or Narcissistic, may be more prevalent.

The results obtained in this study were based on DSM-III-R assessment measures, and the generalizability of these results to the current diagnostic criteria in DSM-IV should be considered. When the DSM-III-R was revised, several minor changes or reconceptualizations were made to the diagnostic criteria for both PTSD and personality disorders. In DSM-III-R, Criterion A for PTSD was met if a person experienced an event involving actual or threatened harm, injury, or death. In DSM-IV, Criterion A was expanded to include a person who experienced, witnessed, or was confronted by such events. Furthermore, the person's response to these events had to involve intense fear, helplessness, or horror. The two other primary modifications were to the symptom cluster of reexperiencing (Criterion B). One symptom, intrusive thoughts, was redefined to include not only distressing recollections of the event itself, but any images, thoughts, or perceptions related to the event. Another symptom, physiologic reactivity to symbolic cues related to the traumatic event, was relocated to Criterion B (from Criterion D) so that it would be with other, more congruent symptoms of reexperiencing.

The criteria for personality disorders in DSM-IV were modified to increase clarity and specificity while attempting to reduce gender bias. Two items (irresponsible parenting and failure to sustain a monogamous relationship) were deleted, two other items (failure to maintain consistent work behavior and failure to honor financial obligations) were collapsed into one, and the relationship to Conduct Disorder (Criterion C) was simplified for Antisocial Personality Disorder. An additional item (transient, stress-related, paranoid ideation or severe dissociative symptoms) was added to Borderline Personality Disorder. Passive-Aggressive Personality Disorder was removed from the active classification system, and a revised version was placed in the research appendix for further study. From a review of these changes in diagnostic criteria for PTSD and personality disorders and after consideration of the patient characteristics of this sample, it does not appear that the current results would be significantly different under the DSM-IV.

In summary, the fact that so many of these combat veterans met criteria for personality disorders suggest that this is a significant clinical and diagnostic

phenomenon that cannot be overlooked. The fact that those veterans with two or more diagnoses typically do not have personality disorders from the same cluster suggests that the relationship between PTSD and personality disorders is a complicated one. For accurate diagnosis and effective treatment to occur, future research should assess the full range of personality disorders in other programs, settings, and populations to determine respective prevalence. With accurate diagnostic and prevalence data, a classification typology then could be developed to subtype PTSD veterans for each specific personality disorder. This typology could be used to provide a better theoretical conceptualization of the comorbidity between PTSD and personality disorders and lead to more effective treatment for this population.

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